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DOCKET NO. P05411 (formerly P05441)
U.S. SERIAL NO. 10/797,478
PATENT

IN THE CLAIMS

Please amend the claims as follows.

1. (Previously Presented) A frequency monitor circuit (FMC) configured to receive at least one monitored clock whose frequency is to be monitored, said FMC comprising:

a reference window generator (RWG) operative to output a reference window signal defining a reference window, the reference window having a given duration;

a monitored clock counter (MCC) operative to count all pulses any one of the at least one monitored clock that occur within the duration of said reference window and to output a corresponding pulse count; and

at least two comparators, each comparator operative to compare said pulse count with a respective given threshold value and to output a corresponding indication of frequency deviation.

2. (Previously Presented) The frequency monitor circuit of claim 1, further comprising a storage and logic module (SLM), wherein said RWG, said MCC and said comparators are operative to function repeatedly and the SLM is operative to store one or more indications output by the comparators, the one or more stored indications being available for readout.

3. (Previously Presented) The frequency monitor circuit of claim 2, wherein said SLM is further operative to process the stored indications so as to obtain statistical information about the frequency of any of the at least one monitored clock.

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4. (Original) The frequency monitor circuit of claim 3, wherein said statistical information includes indication of a trend in frequency deviation.

5. (Previously Presented) The frequency monitor circuit of claim 1, formed on an integrated circuit chip that includes at least one clock generator, an output of any of said at least one clock generator being one of the at least one monitored clock.

6. (Previously Presented) The frequency monitor circuit of claim 5, wherein said at least one clock generator comprises a phased locked loop (PLL).

7. (Previously Presented) The frequency monitor circuit of claim 5, wherein said at least one clock generator is a frequency multiplier.

8. (Original) The frequency monitor circuit of claim 7, wherein said RWG and said MCC form part of said frequency multiplier.

9. (Currently Amended) The frequency monitor circuit of claim 1, ~~further configured to be receptive to a reference clock and~~ wherein said RWG includes a reference clock counter (RCC), ~~responsive to the reference clock and~~ operative to count a given number of reference clock pulses in a reference clock, and wherein a beginning of said reference window

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coincides with a beginning of said counting and an end of said reference window coincides with an end of said counting.

10. (Previously Presented) The frequency monitor circuit of claim 9, wherein an integrated circuit chip includes a clock generator of a frequency multiplier type, whose output is a monitored clock, wherein said RCC and said MCC form part of said clock generator.

11. (Previously Presented) The frequency monitor circuit of claim 1, wherein said at least one clock is at least two clocks, the FMC further comprising a selector operative to switch any one of the at least two clocks into said MCC.

12. (Original) The frequency monitor circuit of claim 11, formed on an integrated circuit chip that forms part of a digital system and at least one of the monitored clocks is input to the chip.

13. (Original) The frequency monitor circuit of claim 11, wherein the duration of said reference window is different for each monitored clock.

14. (Original) The frequency monitor circuit of claim 11, wherein, for any of said comparators, the respective threshold value is different for each monitored clock.

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15. (Previously Presented) An integrated circuit chip, on which there is provided at least one monitored clock whose frequency is to be monitored, the chip comprising a frequency monitor circuit (FMC) that includes:

a reference window generator (RWG) operative to output a reference window signal defining a reference window, the reference window having a given duration;

a monitored clock counter (MCC) operative to count all pulses in any one of the at least one monitored clock that occur within the duration of said reference window and to output a corresponding pulse count; and

at least two comparators, each comparator operative to compare said pulse count with a respective given threshold value and to output a corresponding indication of frequency deviation.

16. (Previously Presented) The integrated circuit chip of claim 15, wherein said FMC further includes a storage and logic module (SLM), wherein said RWG, said MCC and said comparators are operative to function periodically and the SLM is operative to store one or more indications output by the comparators, the one or more stored indications being available for readout.

17. (Previously Presented) The integrated circuit chip of claim 16, wherein said SLM is further operative to process the one or more stored indications to obtain statistical information about the frequency of any of the at least one monitored clock.

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18. (Original) The integrated circuit chip of claim 17, wherein said statistical information includes indication of a trend in frequency deviation.

19. (Previously Presented) The integrated circuit chip of claim 15, further including at least one clock generator and wherein an output of any of said at least one clock generator is one of the at least one monitored clock.

20. (Previously Presented) The integrated circuit chip of claim 19, wherein said at least one clock generator includes a phase locked loop (PLL).

21. (Previously Presented) The integrated circuit chip of claim 19, wherein said at least one clock generator is a frequency multiplier.

22. (Original) The integrated circuit chip of claim 21, wherein said RWG and said MCC form part of said frequency multiplier.

23. (Previously Presented) The integrated circuit chip of claim 15, wherein there is further provided on the chip a reference clock, wherein said RWG includes a reference clock counter (RCC) operative to count a given number of reference clock pulses, and wherein a beginning of said reference window coincides with a beginning of said counting and an end of said reference window coincides with an end of said counting.

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24. (Previously Presented) The integrated circuit chip of claim 23, further including a clock generator of a frequency multiplier type, whose output is a monitored clock, wherein said RCC and said MCC form part of said clock generator.

25. (Previously Presented) The integrated circuit chip of claim 15, wherein said at least one clock is at least two clocks, the FMC further comprising a selector operative to switch any one of the at least two clocks into the MCC.

26. (Original) The integrated circuit chip of claim 25, the chip forming part of a digital system and at least one of the monitored clocks being generated, within the system, outside the chip.

27. (Previously Presented) The integrated circuit chip of claim 25, wherein the duration of said reference window is different for each monitored clock.

28. (Previously Presented) The integrated circuit chip of claim 25, wherein, for any of said comparators, the respective threshold value is different for each monitored clock.

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